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(INCLUDE THIS REPORT IN CARTEX SITE FILE)

FEDERAL ON-SCENE COORDINATOR'S REPORT

FOR

DOYLESTOWN GROUNDWATER SITE
DOYLESTOWN TOWNSHIP, BUCKS COUNTY, PENNSYLVANIA

OCTOBER 22, 1987 THROUGH SEPTEMBER 30, 1991

INFORMATION IN THIS REPORT USED TO SUPPORT NFLAP/ARCHIVE OF THE FORMER CARTEX SITE

VINCENT E. ZENONE
ON-SCENE COORDINATOR
U.S.EPA REGION III
PHILADELPHIA, PENNSYLVANIA

TABLE OF CONTENTS

FACT SHEET

REGION III **PROJECT #188**
CERCLA REMOVAL ACTION **FACT SHEET**

SITE: Doylestown Groundwater Site

SIZE: Approximately six acres

LOCATION: Doylestown Township, Bucks County, PA

APPROVAL DATE: October 22, 1987

PROJECT DATES: October 22, 1987 through September 30, 1991

DESCRIPTION: In August 1987, a preliminary investigation was conducted at the Chem-Fab facility in the borough of Doylestown by the EPA Field Investigation Team that included sampling the well water of a nearby residence. Analytical results indicated the potential for extensive groundwater contamination. Further EPA investigation detected groundwater contamination in seven homes and two businesses. To mitigate the threats posed by the groundwater contamination, OSC Garrett Arai activated CERCLA via Delegation of Authority 14-1-A to implement a three-phased plan of action. The first two phases included supplying bottled water and providing and maintain carbon filtration units. The third and final phase was to connect the affected residences and businesses to an extension of the township water line. After the departure of OSC Arai from the Agency, OSC Zenone became the OSC of Record for this project.

HAZARDOUS MATERIALS: Chloroform, trichloroethylene (TCE), 1,1-dichloroethylene (DCE), 1,1-dichloroethane, tetrachloroethylene (PCE), and 1,1,1-trichloroethane.

ON-SCENE COORDINATOR: Vincent E. Zenone

REMOVAL CONTRACTORS: O.H. Materials, Inc., Findlay, OH; BES Environmental Specialists, Inc., Larksville, PA; William Farne, Inc., Prospectville, PA

PROJECT CEILING: $1,041,000

PROJECT COST: $ 537,129 (Estimated)

COMMENTS: As a result of a well-coordinated effort, the OSC was successful in completing all removal actions on schedule. The water line was ultimately turned over to Doylestown Township, along with all as-built drawings.

Vincent E. Zenone OSC

Vincent E. Zenone, OSC

FOREWORD

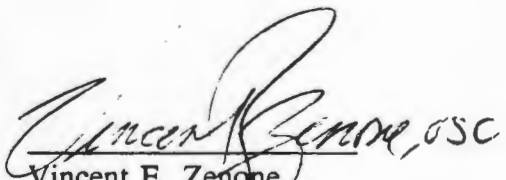
FOREWORD

The On-Scene Coordinator (OSC), as mandated by the National Oil and Hazardous Substances Pollution Contingency Plan, Section 40 CFR 300.415 (NCP 1990), is required to provide a coordinated federal response capability at the scene of an unplanned or sudden discharge of oil or hazardous substance that poses a potential threat to the public health or the environment. In addition, the provisions of Section 104(b) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), promote a coordinated federal, state and local response to mitigate situations at hazardous waste sites that pose an imminent and substantial threat to public health and/or the environment.

The presence of extensive groundwater contamination at the Doylestown Groundwater Site posed an imminent and substantial risk of harm to human health and the environment, thereby providing a legal basis for federal response activities. The provisions of the NCP and CERCLA/ SARA were implemented by the U.S. Environmental Protection Agency, Region III, Philadelphia, Pennsylvania.

The purpose of this On-Scene Coordinator's Report is to accurately document and present all of the actions taken and the resources committed, and to state the problems encountered during removal actions at the Doylestown Groundwater Site.

The OSC would like to extend thanks to all of the agencies, groups, and individuals who participated in this federal removal action. The overall success of this project was due to the cooperation of participating agencies and contractors under the well-coordinated direction of the OSC. Special thanks are also extended to the affected residents for their cooperation in removal efforts.



Vincent E. Zenone
On-Scene Coordinator
U.S. EPA, Region III
Philadelphia, Pennsylvania

SECTION I

INTRODUCTION

Doylestown Groundwater Site
Federal On-Scene Coordinator's Report

I. INTRODUCTION

A. Initial Situation

The Pennsylvania Department of Environmental Resources (PA DER) and the Bucks County Health Department conducted a joint inspection of the Chem-Fab facility located in Doylestown Borough, PA, in May 1982. At this time, electro-forming operations were being performed, which generated chrome sludge. Shortly thereafter, PA DER charged Chem-Fab with RCRA violations of state laws. Chem-Fab had a history of illegal spills into surface drainage pathways and surface water. In addition to electro-forming, other operations at the facility included electroplating until approximately 1978, and the use of TCE for degreasing until 1973. These conditions prompted PA DER to recommend a site inspection to determine whether or not off-site migration was continuing.

On August 6, 1987, the EPA Field Investigation Team conducted a site assessment at the Chem-Fab facility. During this assessment, a sample was collected from the well of the nearby Hennings residence. Analytical results indicated the presence of several organic compounds including, but not limited to, chloroform and TCE. The results were submitted to EPA Ken Kryszczun in a memo dated October 1987. The Hennings residence was referred to the EPA Emergency Response Section.

Please redact
Hennings
Hennings

Due to the immediate threat to human health and the environment, the OSC utilized Delegation of Authority, 14-1-A, to obtain $50,000 in funding to implement measures to abate the threat. These measures included providing bottled water to the residences and conducting additional sampling to identify additional affected residences. Two residences and two businesses were identified. Initial response actions consisted of providing bottled water and/or installing and maintaining point-of-entry carbon filtration units for the residences and businesses, which required additional funding. On [illegible] additional funding was approved by the Regional Administrator. Ultimately, the affected residences and businesses would be connected to an extension of the water line that supplied [illegible]stown Township.

B. Site Location

The Doylestown Groundwater Site was located south of the intersection of Shady Retreat Road and Broad Street in a residential/industrial area of Doylestown Township, bordering the Borough of Doylestown, Bucks County, PA. The site was approximately six acres in size adjacent to a stream, Cooks Run, flowing northeast to southwest on the eastern side of the site.

C. Efforts to Obtain Cleanup by Potential Responsible Party(ies)

At the time of this writing, no definite PRPs associated with this have been identified; however, on March 4, 1988, the OSC issued verbal Notice of Federal Interest to Mr. Brad Brinker of Brinker Fuels, Inc., and to Dick McNut of PHL, Inc. Brinker Fuels, Inc., voluntarily installed carbon filtration units to serve their tenants with a whole-house water supply. The EPA Enforcement Section continues to pursue numerous suspected sources of the contamination.

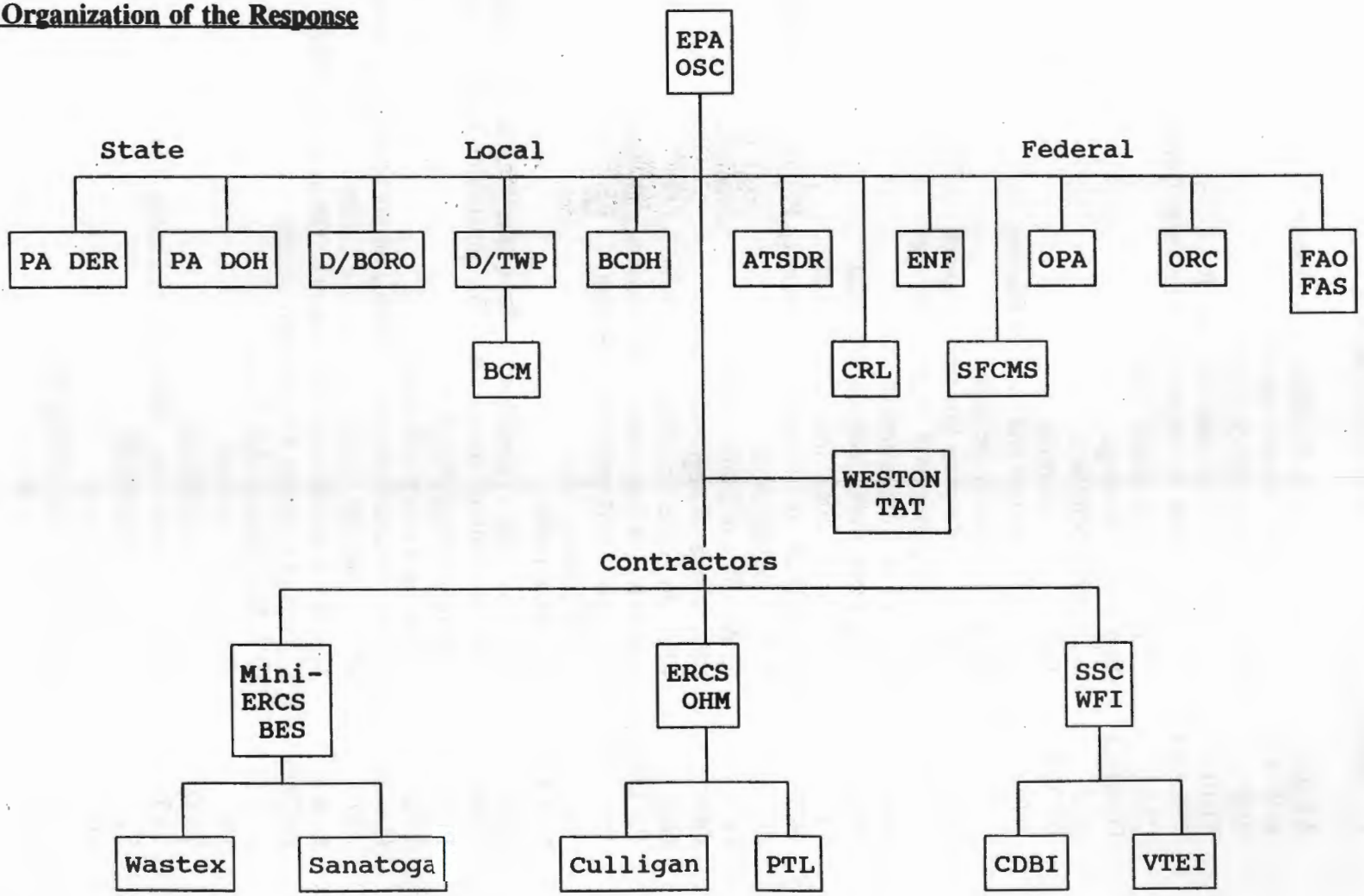
SECTION II

ROSTER OF AGENCIES, ORGANIZATIONS AND INDIVIDUALS

A. Names and Addresses (continued)

NAMES AND ADDRESSES	CONTACT	BRIEF DESCRIPTION OF DUTIES
Commonwealth of Pennsylvania Department of Health The Reading Building 625 Cherry Street, Room 442 Reading, PA 19602 (215) 378-4352	Gary A. Schultz	State official who coordinated health issues with the OSC.
Commonwealth of Pennsylvania Department of Environmental Resources Bureau of Water Quality Management P.O. Box 2063 Harrisburg, PA 17105-2063 (717) 787-2666	Mike Penella	State official who coordinated removal activities with the OSC.
Bucks County Department of Health Neshaminy Manor Center Doylestown, PA 18901 (215) 345-3325	Everett C. Hogg Albert W. Willis	County officials who coordinated removal activities with the OSC.
Borough of Doylestown 57 West Court Street Doylestown, PA 18901 (215) 345-4140	Benjamin W. Jones	Local official who coordinated removal activities with the OSC.
Doylestown Township 425 Wells Road Doylestown, PA 18901 (215) 348-9915	David R. Jones Richard E. John Stephanie Mason Stephen Oiler	Local officials who coordinated construction of the water line extension, and to whom it was turned over upon completion.
Doylestown Township Police 425 Wells Road, R.D. #3 Doylestown, PA 18901 (215) 348-4200	Lt. Frank B. Dunlap	Provided traffic control during water line extension construction.
B.C.M. Engineers, Inc. One Plymouth Meeting Plymouth Meeting, PA 19462 (215) 825-3800	John Ross Stefan R. Helbig Alfred S. Ciottoni Joseph W. Catana, III	Township engineers who provided water line extension design and plans. Township water line inspector.
Roy F. Weston, Inc. Major Programs Division Technical Assistance Team 5 Underwood Court Delran, NJ 08075 (609) 461-4003	John DiSciullo Mark Tucker Robert Roselius	Phase I - Performed initial sampling and assessment activities.
	Mrinal Biswas Christine Lipsack B.S. Banipal Lisa Strissel Lorraine Russell	Phase II - Performed periodic well sampling and reviewed specifications and plans of the water main extension.
	Mrinal Biswas Christine Lipsack B.S. Banipal John Ingram	Phase III - Monitored construction of water line extension.

B. Organization of the Response



SECTION III

NARRATIVE OF EVENTS

III. NARRATIVE OF EVENTS

On October 21, 1987, the RRC was notified of potential g
Doylestown Township, PA, by the EPA Site Investigatic
EPA conduct an emergency assessment of the situation ar
ground in the form of a memo from FIT dated October 2(
analytical results documenting the presence of volatile org
Bob Hennings residence. The contamination was identifie
Fab metal facility. Levels of TCE and DCE, as well as ot
action levels. OSC Arai contacted ATSDR Walters an
advice, on October 22, 1987 used Delegation of Autho
CERCLA funds to implement mitigative actions. Initial a
to the Hennings residence and conducting additional s
contamination and to provide bottled water to any add
volatile organics contamination above EPA action levels

A sampling plan was prepared to determine the extent
October 26, 1987, TAT sampled the wells of residences
of the Chem-Fab facility. Analytical results verified the
identified contamination above EPA action levels in tw
residences, and the other serving one residence and on
the OSC provided bottled water to the additional impac
results from the remaining samples indicated some
however, these were below EPA action levels. At this
would not be provided to these residences.

On November 5, 1987, OSC Arai and TAT met with
Benjamin Jones, to discuss the possibility of extending
impacted residences and business. On November 6, 1987, addit
of wells within a half-mile radius of the area.

On November 10, 1987, due to the unavailability of OSC Ara
OSC of Record to the completion of the removal actions at th

On November 16, 1987, results were received from the No
results indicated three additional residences and one additi
groundwater contamination. OSC Zenone directed ERCS to
residences and business, implemented, bringing the total to
that were receiving bottled water as part of the EPA actic

Hennings residence
Tilley residence
Armstrong residence
Tilley Fire Equipment Company
Romanczak residence

PHL, ..

Please redact

← Bob Hennings

← Hennings

← Hennings

Please redact all residences & businesses

At this time, the OSC began preparing an additional funding request to continue mitigative efforts.

In January 1988, OSC Zenone directed TAT to resample at locations where previous sampling identified contamination near EPA action levels.

OSC Zenone kept ATSDR updated on site activities and provided all analytical results. In February 1988, ATSDR strongly recommended that whole-house water be provided to the affected residences and businesses. A meeting was held between OSC Zenone, EPA Enforcement, OPA, ATSDR, PA DOH, BCDH, Borough of Doylestown, and Doylestown Township to discuss options for providing whole-house water as [illegible]ne, OSC Zenone prepared an additional funding request, [illegible]nal Administrator on March 7, 1988 for $991,000, for a t[illegible]

On March 11, 1988, OSC Zenone consulted with Enfo[illegible] was informed that PRP Brinker Fuels, Inc., had voluntarily [illegible]ems on their property. These systems served Brinker Fuels [illegible] and Burke residences and PHL, Inc. OSC Zenone then dir[illegible]ES, to install carbon filtration units in the remaining affected [illegible] and 15, 1988, ERCS installed three units on the Tilley pr[illegible]ong, Arnold, Preedy, and Romanczak residences, and one uni[illegible] The OSC then directed TAT to develop a plan for periodic s[illegible]ss of the carbon filtration units, as well as the groundwater. [illegible]ed to be supplied.

The exemption to the one-year statutory limit under CER[illegible]tober 26, 1988. During this period, regular periodic sampling was conducted to ensure the effectiveness of the carbon filtration units. Per OSC Zenone, split samples were sent to EPA CRL for QA/QC purposes. This request was made after the subcontracted lab was changed from Wastex to Princeton Testing due to false positives received from Wastex. In addition, OSC Zenone continued to coordinate with Doylestown Township and the Borough of Doylestown for a permanent solution to provide whole-house water. A water line extension was proposed, which would be designed by township engineers and reviewed by EPA.

On June 30, 1989, removal work was transferred from BES to OHM. The subcontractor for maintaining the carbon filtration units was changed from Sanatoga to Culligan.

In October 1989, OSC Zenone received specifications and drawings from Doylestown Township for the water line extension. TAT reviewed the plans and suggested that a four-inch line would be sufficient to serve the residences and businesses; however an eight-inch line was designed by the township. The OSC contacted ORC Walters for reimbursement from the township for the cost savings realized from changing to a four-inch line. OSC Zenone also coordinated with the EPA Regional Contract Officer for a site-specific contract.

SECTION V

EFFECTIVENESS OF THE REMOVAL

A. Activities of Various Agencies (continued)

4. Contractors

The Roy F. Weston, Inc., Major Programs Division, provided members of the Technical Assistance Team to perform the following duties as directed by the OSC:

a) Conduct on-site measuring and sampling;

b) monitor, review, and evaluate all analytical data;

c) develop and implement a schedule for the monitoring and maintenance of EPA-installed carbon filtration units;

d) review the plans and specifications prepared by Doylestown Township engineers for the water line extension;

e) monitor and document all on-site contractor activities, and photodocument removal actions;

f) assist in reparing draft POLREPs and review all site-specific contractor invoices for the water line extension; and

g) assist in site safety issues.

BES Environmental Specialists, Inc., of Kingston, PA, was the initial cleanup contractor under the Regional (Mini) ERCS mechanism. BES was responsible for installing and maintaining the carbon filtration units.

Subsequently, BES was replaced as the cleanup contractor by O.H. Materials, Inc., (OHM) of Findlay, OH. OHM was responsible for supplying bottled water to impacted locations, the operations and maintenance of carbon filtration systems, as well as arranging for analytical of filtered water samples collected periodically.

William Farne, Inc., (WFI) of Prospectville, PA, was the site-specific contractor who constructed the water line extension and connected the impacted locations to the new system. Vibra-Tech Engineering, Inc., and Controlled Drilling and Blasting, Inc., subcontracted by WFI to blast hard rock that was encountered in the path of the water line extension.

B. Analytical Synopsis

In October 1987, residential and business well water sampling was undertaken to determine the extent of groundwater contamination in the Doylestown area. All samples were analyzed for purgeable halocarbons using EPA Method #601. The following table shows the contaminants identified and at what level.

SECTION IV

RESOURCES COMMITTED

IV. RESOURCES COMMITTED

A. Initial Funding Request

Based on data confirming the presence of contaminants above EPA action levels the well providing water at the Hennings residence, OSC A[illegible] to human health and the environment. Delegation [illegible] OSC to obligate CERCLA funds not to exceed $50,[illegible] OSC Arai to implement mitigative measures. Initia[illegible] the Hennings residence and conducting sampling [illegible] groundwater contamination.

Please redact

← Hennings

B. Additional Funding Request

On March 7, 1988, Regional Administrator Seif ap[illegible] removal actions for a total project ceiling of $1,041[illegible] continue providing bottled water and to install car[illegible] ← Hennings Periodic sampling was conducted of water provided [illegible] effectiveness, as well as performing general mainten[illegible] locations were connected to a water line extension [illegible] as part of this removal action.

C. One-Year Exemption

To continue mitigative efforts, it was necessary to obtain an exemption from the one-year statutory limit on removal actions per Section 104(e) of SARA (CERCLA Section 104(c)(1), as amended). As the limit expired on October 22, 1988, on October 26, 1988, the EPA Assistant Administrator for Solid Waste and Emergency Response, Dr. J. Winston Porter, granted the exemption.

D. Estimated Total Cost Summary

1.	Extramural	
	ERCS (includes BES, OHM, and subcontractors)	$313,067
	NCLP	33,690
	Other	14
	TAT	55,042
	Extramural Subtotal	$401,813
2.	Intramural	
	EPA Direct	$ 39,304
	EPA CRL	96,012
	Intramural Subtotal	$135,316
	ESTIMATED TOTAL PROJECT COST	$537,129

SECTION VI

CHRONOLOGY OF EVENTS

VI. CHRONOLOGY OF EVENTS

This section presents a brief summary of events as they occurred during the Doylestown Groundwater Site derived from POLREPs, site logs, photographic documentation, and other site-related documentation. As POLREPs are maintained in the RRC, copies have not been included as part of this report. Photocopies may be obtained per the Freedom of Information Act as applicable.

The removal activities at the Doylestown Groundwater Site were broken down into three distinct phases as follows:

Phase I - Initial sampling and assessment to determine the extent of contamination and number of affected wells. Provide bottled water and/or install and maintain carbon filter systems to affected residences and businesses.

Phase II - Periodic well sampling to monitor groundwater contamination and maintain carbon systems. Also, the design of the water line extension was prepared the related specifications and plans were reviewed.

Phase III - The construction of the water main was performed and service connections to affected homes and businesses were provided. The ownership of the extension was turned over to Doylestown Township.

Phase I of the removal began on October 22, 1987 after the l
received a request from the EPA Site Investigation Section (S
of groundwater contamination in Doylestown Township, Bucks
on analytical results from a FIT investigation of the Chem-Fal
1987, OSC Garrett Arai activated a CERCLA removal action v
A. Immediately, bottled water was provided to the Hennings
that sampling of all wells within a half-mile radius of the Che
October 26 and November 5, 1987, TAT conducted sampling
indicated six additional residences and two businesses were
contamination in the area. All were provided bottled water.

Please redact:

← Hennings

On November 10, 1987, due to the unavailability of OSC Arai, O
responsibility for this site. An additional funding request was p
actions, which was approved by the Regional Administrator on M

On March 11, 1988, OSC Zenone activated Mini-ERCS BES and directed that carbon filtration units be installed in impacted locations. On March 14 and 15, 1988, BES installed units where Brinker Fuels had not already installed one. Detailed information from Phase I is documented in POLREPs #1 through #16.

On January 29, 1991, ORC Hayden and Contract Specialist Gawin-Poppke confirmed that Doylestown Towhip had made the reimbursment to EPA for the oversized pipe per the Memorandum of Understanding. During this time, OSC Zenone brought the project to its successful conclusion with the transfer of ownership of the water line extension to Doylestown Township. On September 30, 1991, OSC Zenone delivered the as-built drawings to the Township. Detailed information regarding this phase is documented in POLREP #60 through Final POLREP #83.

SECTION VII

PROBLEMS ENCOUNTERED AND RECOMMENDATIONS

VII. PROBLEMS ENCOUNTERED AND RECOMMENDATIONS

A. Contractor Problems

Sanatoga had been subcontracted by BES to provide services associated with the installation and maintenance of carbon filters. After several months, Sanatoga submitted an invoice for disposal of contaminated carbon they had stockpiled at their facility. The OSC determined that this additional billing was improper because the installation and maintenance of carbon filters for retail customers generally includes the final disposition of the contaminated carbon as part of that service. The OSC subsequently directed the ERCS contractor to subcontract the maintenance of the carbon filters to another water conditioning contractor. The OSC recommends that ERCS provide a comprehensive list of materials and services that a proposed subcontractor generally provides to retail customers on a routine basis to ensure that the subcontractor does not attempt to take unfair advantage of the federal government by billing for those materials or services.

When BES was debarred, the OSC had to arrange for the transition of contracted services from BES to OHM during the course of the removal action. The OSC recommends that the Regional Deputy Project Officer or the Contracting Officer be included in the routine dissemination of information (such as POLREPs) to ensure that contracting issues do not adversely affect the removal action.

A site-specific contract was developed for the construction of the water main. This process was time consuming, resulting in additional time and money spent on the operations and maintenance of the carbon filters, associated sampling and analytical procedures, and provision of bottled water to the affected population. Furthermore, the contract hired by this process was not responsive to routine requirements of the contract. The OSC recommends that a cost benefits analysis be conducted to determine when site-specific contracts are appropriate for removal actions. The OSC further recommends that the contractors hired by this method be required to submit daily progress reports and cost estimates which will allow the Agency to better evaluate progress, productivity, and conformance with contract requirements.

B. Local Government Agency Problems

When the OSC was advised that neither the state nor local government had the authority or the capability to respond, the OSC was provided information that led to the determination that the most cost-effective and expeditious remedy would be to extend a water main from the Borough of Doylestown to the affected population in Doylestown Township. After the OSC requested information concerning the location of existing water mains and appurtenances within the Borough and the Township, both local governments submitted invoices to EPA for provision of that information. The OSC determined that those bills were improper and declined payment. As negotiations with the Borough and the Township continued, delays were encountered as neither the Borough nor the Township could agree on a plan of action to extend a water main from the Borough into the Township. Subsequently, Township officials provided the OSC with the construction of the water main totally within the Township, which would not require concurrence from the Borough. Had the Township provided the OSC this information when initially requested, the remedy could have been implemented more expeditiously.

SECTION VIII

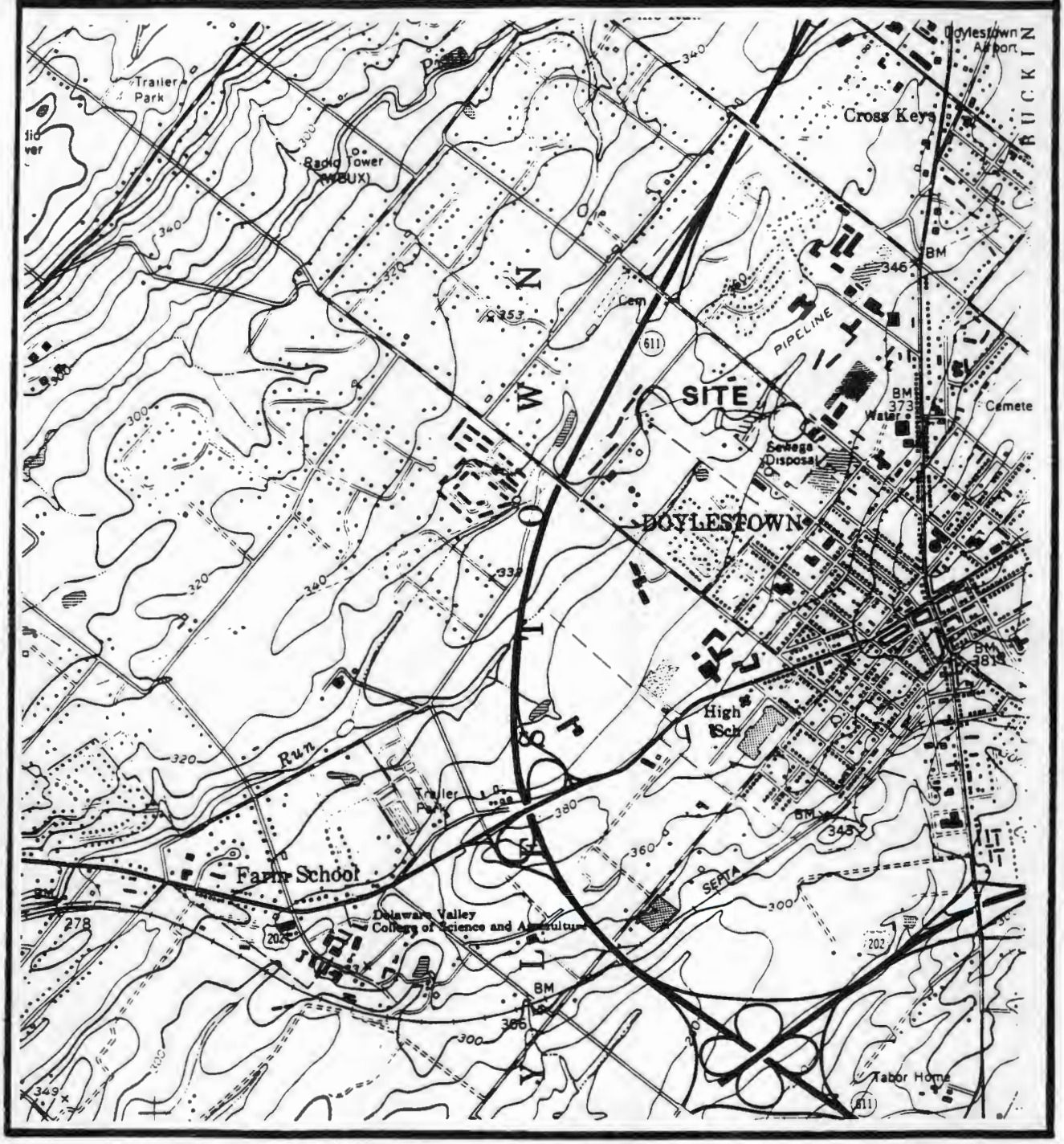
APPENDICES

APPENDIX A

LOCATION MAP AND SITE SKETCHES

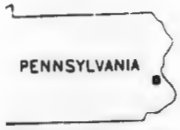
WESTON · MPD

TDD Number: 9010-41D
PCS Number: 1860



DOYLESTOWN GROUNDWATER SITE

SITE LOCATION MAP



QUADRANGLE LOCATION

SCALE 1:24,000

1 ½ 0 1 MILE

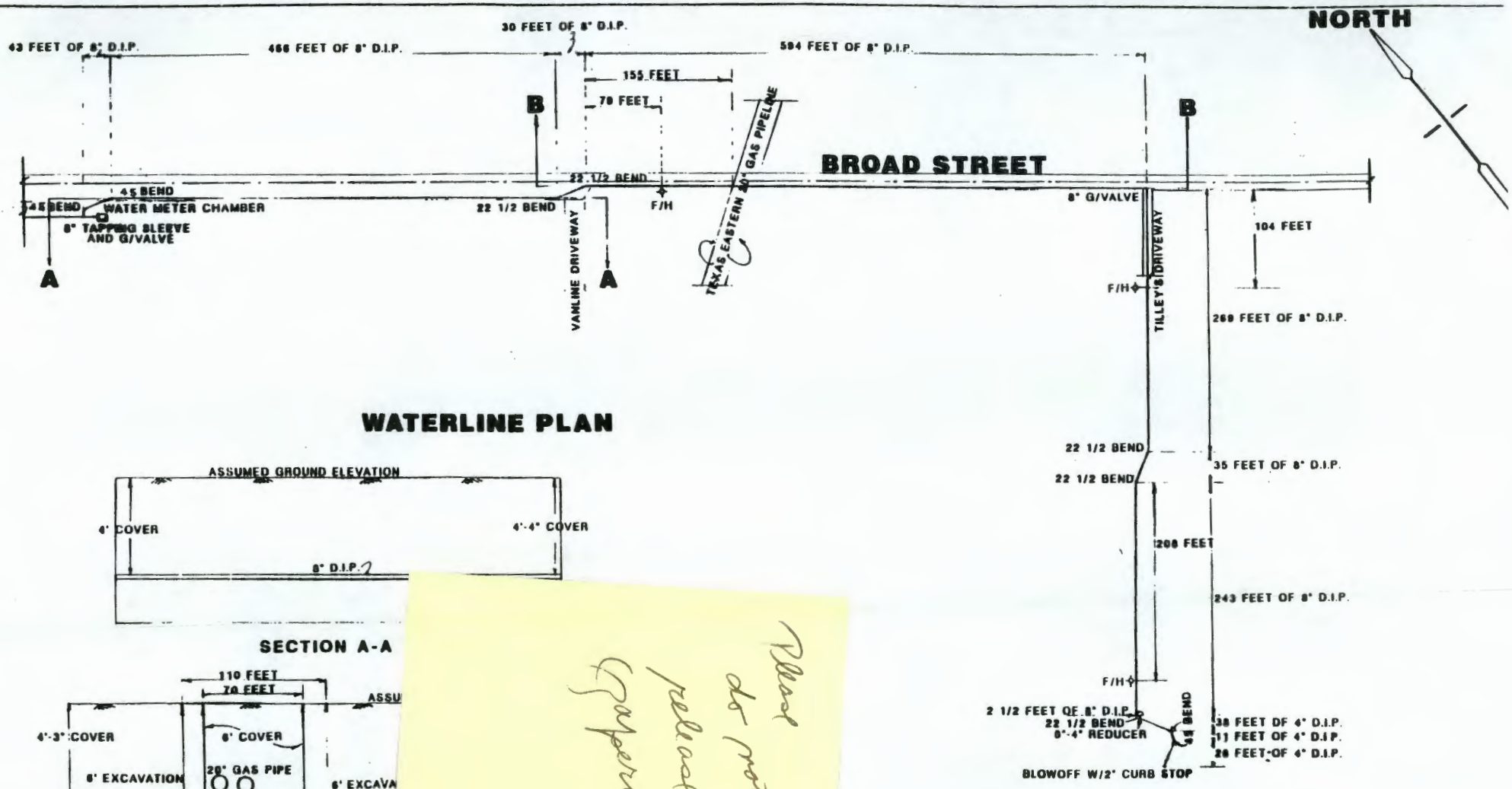
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 0 1 KILOMETER

GN

10½° 187 MILS 0°07' 2 MILS

UTM GRID AND 1973 MAGNETIC NO
DECLINATION AT CENTER OF SHE



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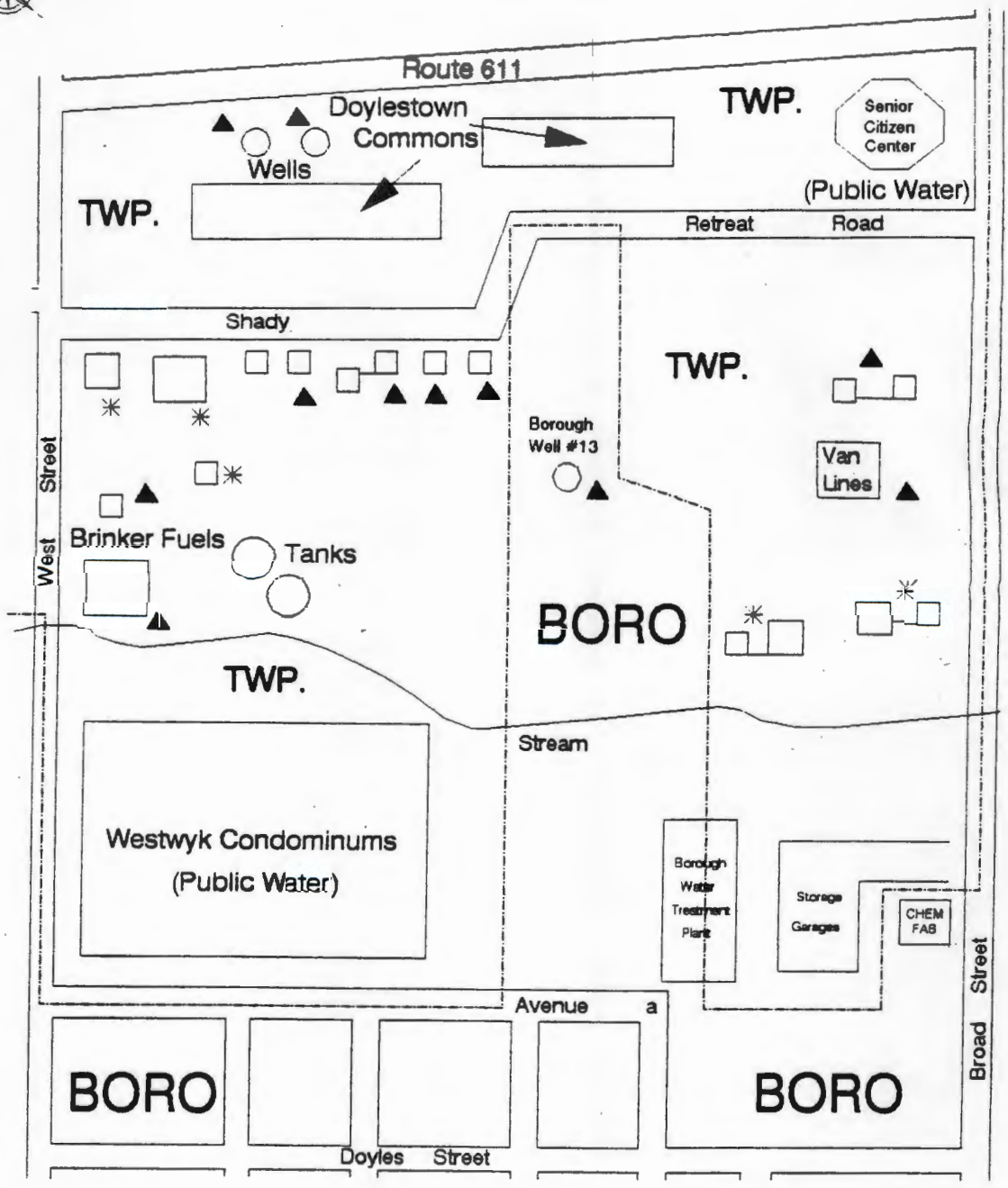
DOYLESTOWN GROUNDWATER SITE

Doylestown Township, Bucks Co., PA.

Site Sketch



LEGENDS:

--- Borough/Township border

▲ Contamination not detected and/or below EPA action level

✳ Contamination detected --- bottled water needed

NOT TO SCALE

APPENDIX B

FUNDING DOCUMENTATION AND ONE-YEAR EXEMPTION

BE NOTED THAT THE MUNICIPAL WELL IS NO LONGER USED FOR POTABLE SUPPLY DUE TO CONTAMINATION PROBLEMS. THIS DOES INDICATE THAT THE POTENTIAL EXISTS FOR THE CONTAMINANT PLUME TO EFFECT THE OTHER RESIDENCES IN THE AREA, AS WELL AS SPREAD FURTHER TO ADDITIONAL HOMES AND ESTABLISHMENTS.

III. THREAT

ANALYTICAL DATA RECEIVED BY U.S. EPA SITE INVESTIGATION SECTION REVEALED THE PRESENCE OF HAZARDOUS SUBSTANCES IN RESIDENTIAL WELL WATER AT THE TAP. THESE INCLUDE:

TRICHLOROETHENE (TCE)	220 PPB
TRANS-1,2-DICHLOROETHENE (tDCE)	250 PPB
1,1-DICHLOROETHENE	11 PPB
1,1-DICHLOROETHANE	7 PPB
1,1,1-TRICHLOROETHANE	37 PPB
TETRACHLOROETHENE	59 PPB
TOLUENE	3 PPB

THESE RESULTS WERE COMFIRMED BY PRELIMINARY QUALITY ASSURANCE REVIEW. IN ADDITION, INORGANICS FOUND IN THIS RESIDENTIAL WELL INCLUDED 7 PPB CADMIUM AND 13.9 PPB LEAD. THIS WAS NOT CONFIRMED BY QA/QC. THE SAMPLE TAKEN FROM THE MUNICIPAL WELL REVEALED 3 PPB TCE.

OF THE VOLATILES REPORTED IN THE RESIDENTIAL WELL, TCE AND 1,2-DICHLOROETHENE WERE MEASURED IN EXCESS OF 1/2 THE DRINKING WATER EQUIVALENT LEVEL (DWEL) OF 350 PPB AND 260 PPB RESPECTIVELY. THESE LEVELS ARE HIGH ENOUGH TO MEET THE CRITERIA TO ELICIT AN EMERGENCY REMOVAL ACTION. IN ADDITION, THE MAXIMUM CONTAMINANT LEVELS(MCL) SET FOR PUBLIC WATER SUPPLIES OF 5 PPB AND 7 PPB RESPECTIVELY ARE ALSO EXCEEDED. AS SUSPECT CARCINOGENS, THESE COMPOUNDS ARE BELIEVED TO POSE AN EXCESS CANCER RISK TO HUMANS. THE TWO PRIMARY ROUTES OF EXPOSURE FOR ALL OF THESE VOLATILE ORGANIC COMPOUNDS ARE INGESTION AND INHALATION.

IV. SCOPE OF WORK

THE SCOPE OF WORK PROPOSED FOR IMPLEMENTATION OF THE EMERGENCY $50,000 APPROPRIATION WILL INCLUDE DELIVERY OF BOTTLED WATER TO THE RESIDENCES WHOSE WELLS ARE CONTAMINATED WITH ELEVATED LEVELS OF THESE COMPOUNDS. AT THE SAME TIME, A SAMPLING SCHEDULE WILL BE SET UP TO DETERMINE THE NEED FOR ADDITIONAL EMERGENCY SUPPLIES.

DETERMINATION OF APPROPRIATE RESPONSE ACTIVITIES (BOTTLED WATER AND/OR CARBON FILTRATION UNITS) DEPENDS UPON A NUMBER OF SITE SPECIFIC FACTORS. THESE INCLUDE SENSITIVE POPULATIONS, LOCATION AND MOVEMENT OF THE CONTAMINANT PLUME, AND EXPECTED DURATION OF RESPONSE ACTIVITIES. (REFERENCE PROPOSED GUIDANCE ON REMOVAL ACTION LEVELS FOR DRINKING WATER CONTAMINATION SITES, DATED JANUARY 6, 1987.

IT MAY BE NECESSARY TO SUPPLY BOTTLED WATER WITH CARBON FILTERS UNTIL THE OSC DETERMINES THAT THE FILTERS ARE FUNCTIONING AS EXPECTED.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
841 Chestnut Building
Philadelphia, Pennsylvania 19107

SUBJECT: Approval of an Exemption to the One-Year Statutory Limit at the Doylestown Groundwater Site, Doylestown Township, Bucks County, Pa. DATE: OCT 26 1988

FROM: James M. Seif
Regional Administrator (3RA00)

TO: Dr. J. Winston Porter, Assistant Administrator
Solid Waste and Emergency Response (WH-562A)

THRU: Henry L. Longest, Director
Office of Emergency and Remedial Response (WH-584)

ATTN: Timothy Fields, Director
Emergency Response Division (WH-548E)

ISSUE

Continued removal activities beyond the one-year statutory limit cannot be undertaken unless an exemption to Section 104(e) of the Superfund Amendments and Reauthorization Act (SARA) of 1986 [104(c)(1) of CERCLA 1980 as amended] is granted.

Additional time beyond the statutory limit is necessary to continue removal actions to mitigate the threat to the public health and the environment posed by the presence of volatile organic compounds in residential wells.

The volatile organic compounds which have contaminated the local aquifer in concentrations, which exceed the numeric action level, include trichloroethylene and 1,1,1-trichloroethane.

Additional volatile organic compounds which have contaminated this aquifer include vinyl chloride, 1,1-dichloroethylene, tetrachloroethylene, 1,1-dichloroethane, 1,2-transdichloroethylene, chloromethane, and chloroform.

The initial response action at the Doylestown Township Site took place on October 22, 1987, and the one-year statutory limit will expire on October 22, 1988.

This site is not on the National Priorities List (NPL).

Attachments

BACKGROUND (Continued)

Due to the immediate threat to human health the OSC used his Delegation of Authority 14-1-A (10-22-87) to appropriate $50,000 to begin measures to abate the threat.

During the course of removal activities initiated under this authority, the extent of contamination was quantified and it was further determined that the volatile organic compounds which had contaminated the local groundwater included trichloroethylene and 1,1,1-trichloroethane, concentrations of which significantly exceeded the numeric action levels. Additional contaminants included vinyl chloride, 1,1-dichloroethylene, tetrachloroethylene, 1,1-dichloroethane, 1,2-trans-dichloroethylene, chloromethane, and chloroform.

On March 7, 1988 an Additional Funding Request was approved to continue the emergency removal activities. Whole-house potable water was provided to the affected population as recommended by the Agency for Toxic Substances and Disease Registry (ATSDR). This was accomplished by the installation of carbon filtration systems at the individual residences, an interim measure pending the implementation of an existing intermunicipal agreement between the Borough and Township of Doylestown.

DISCUSSION

Analytical results continually show high levels of trichloroethylene (500-600ppb), 1,1,1-trichloroethane (4000-5000ppb), and 1,1-dichloroethylene (1000-2000ppb). These concentrations are far above the permissible drinking water levels, and exceed the numeric action levels. In addition, concentrations of vinyl chloride continue to be in excess of the minimum concentration levels. Vinyl chloride is a known human carcinogen.

Due to the high levels of volatile organic compounds present in samples collected from the residential wells, it was apparent that the installation of carbon filtration systems would be a temporary solution.

The OSC had anticipated implementation of an existing intermunicipal agreement between the Borough and the Township of Doylestown to extend the public water line into the Township to the affected population. Unfortunately, the Borough and the Township did not have the resources to implement this agreement under the emergency conditions of this site, and

REGIONAL RECOMMENDATION

Because conditions at the Doylestown Groundwater Site meet the criteria for an exemption of the one-year statutory limit for a removal action, I recommend your approval of this request.

You may indicate your approval or disapproval by signing below.

Approval _____ Date 10-25-88

Disapproval _____ Date _____

ORIG

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
841 Chestnut Building
Philadelphia, Pennsylvania 19107

SUBJECT: Additional Funding Request for the Doylestown Groundwater Contamination Site, Doylestown Township, Bucks County, Pennsylvania

DATE: MAR 7 1988

FROM: Vincent E. Zenone, On-Scene Coordinator
Emergency Response and Preparedness Section (3HW22)

TO: James M. Seif
Regional Administrator (3RA00)

THRU: Stephen R. Wassersug, Director
Hazardous Waste Management Division (3HW00)

I. PURPOSE

This is a request for additional funding to continue removal actions at the Doylestown Groundwater Site, Doylestown Township, Bucks County, Pennsylvania. Hazardous substances have been detected in the groundwater and have contaminated the private wells of at least seven homes and two businesses. The OSC has considered a number of options to eliminate the threat to public health posed by these substances, and recommends that the following option, implemented in a phased plan of action, be approved as the best solution to this threat to human health.

Additional funds in the amount of $991,000 (see Section IV A, B and C) will be utilized to continue to provide bottled water to the affected residences and businesses until carbon filtration units are installed. Filtration units may only be a temporary measure, and monies for maintenance and periodic sampling are included in this option for one year from the date of installation. Therefore, the ultimate solution is proposed to be the extension of an existing public water line to provide service to the affected residences and businesses. These monies will be in excess of the $50,000 already allocated to this site.

III. THREAT

Analytical results received continually show high levels of TCE (500-600ppb), TCA (4000-5000ppb), and DCE (1000-2000ppb). These values exceed concentrations permissible in drinking water. Subsequently, vinyl chloride concentrations have been found in excess of the Maximum Contaminant Levels (MCLs) established under the Safe Drinking Water Act. Vinyl chloride is a known human carcinogen.

Due to the high levels of volatile organic compounds present in the well water samples, it becomes apparent that the installation of carbon filtration units could be a temporary solution to the problem. Rapid breakthrough of the high level contaminants may be expected in the carbon filter units which would necessitate constant maintenance of the systems. In addition, air strippers may have to be included in the systems because activated carbon filters alone have been demonstrated to be ineffective in removing the vinyl chloride.

With the extent of contamination defined by the number of impacted residences and businesses, it is evident that the monies currently allocated will be inadequate to continue the abatement of the threat to the public health.

B. Maintenance and periodic sampling of at least nine (9) carbon filtration and air stripper systems for one year.

EXTRAMURAL COSTS	
ERCS	$125,000
TAT	$ 25,000
Subtotal Extramural Costs	$150,000
15% contingency of above costs	$ 23,000
TOTAL EXTRAMURAL COSTS	$173,000
INTRAMURAL COSTS	
EPA (direct costs)	$25,000
EPA (indirect costs)	$25,000
Subtotal Intramural costs	$50,000
15% contingency of above costs	$ 8,000
TOTAL INTRAMURAL COSTS	$58,000
TOTAL PHASE "B" CEILING ESTIMATE...	$231,000

C. Extend the existing public water line, provide hook-up service to at least seven homes and two businesses, and seal-off the abandoned contaminated private wells.

EXTRAMURAL COSTS	
ERCS	$500,000
TAT	$ 30,000
Subtotal Extramural Costs	$530,000
15% contingency of above costs	$ 80,000
TOTAL EXTRAMURAL COSTS	$610,000
INTRAMURAL COSTS	
EPA (direct)	$25,000
EPA (indirect)	$25,000
Subtotal Intramural costs	$50,000
15% contingency of above costs	$ 8,000
TOTAL INTRAMURAL COSTS	$58,000
TOTAL PHASE "C" CEILING ESTIMATE.. .	$668,000

TOTAL REMOVAL PROJECT CEILING ESTIMATE...$991,000

The OSC recommends that the aforementioned phased plan of action be considered the best solution to the threat to human health posed by the hazardous materials associated with this site.

V. ENFORCEMENT

See attached Confidential Enforcement Status.

APPENDIX C

REGION III INCIDENT NOTIFICATION REPORT

REGION III INCIDENT NOTIFICATION REPORT

1.Case No.: PA 880051

2. Reported: (mm/dd/yy) 10/21/87 | 3. Time: 1330 | Recorded By: Garrett Arai

4. ☐ Through NRC: | 5. NRC Case No.: (7-1073)

A. REPORTER

6. Reported By: Paul Racette

7. Organization Name: USEPA Site Investigation

8. Organization: ☐ 9. discharger ☐ 10. public ☐ 11. state ☐ 12. local ☒ 13. federal

14. Address: Region III

15. City: PHILA | 16. County: | 17. State PA

18. Zip: | 19. Phone: ( )

B. DIS-CHARGER

20. ☐ As Above in A if 9 applies | 21. Name: Under investigation / unknown

22. Address:

23. City: | 24. County: | 25. State

26. Zip: | 27. Phone: ( )

C. INCIDENT LOCATION

28. ☐ As Above in B | 29. Street or Approx. Location: 400 N. Broad St.

Doylestown, PA 18901 215-345-646X

30. City: " | 31. County: Bucks | 32. State PA

D. DATE

33. Spill Date: (mm/dd/yy) Unk | 34. Spill Time: Unk

E. MATERIAL

Material: ☐ Oil ☐ hazardous substance	35. ☐ Material Unknown	UN/DOT No	CAS No.	CHRIS Code	Quantity Spilled	Units (Circle 1)
36. TCE in drinking water		37.	38.	39.	unknown	lb. gal. bbl. oth
42.		43.	44.	45.	46.	47. lb. gal. bbl. oth
48.		49.	50.	51.	52.	53. lb. gal. bbl. oth

F. SOURCE

Source of Spill: ☐ 54. highway ☐ 55. air transport ☐ 56. railway ☐ 57. vessel ☐ 58. fixed facility ☐ 59. pipeline ☐ 60. offshore ☐ Federal facility ☒ Unknown | 61. Vehicle ID or Carrier No.:

62. Description: Unknown

G. MED.

Medium Affected: ☐ 63. air ☐ 64. land ☒ 65. water ☐ drinking water ☐ 66. groundwater ☐ 67. within facility only ☐ none

68. Waterway Affected

H. CAUSE

Reported Cause: ☐ 69. transportation accident ☐ 70. equipment failure ☐ 71 operational error ☐ 72. natural phenomenon ☐ 73. dumping ☐ 74. unknown ☒ 75. other

76. Description: unknown problem investigations pending

I. DAM

Damages: 77. no. of injuries ____ 78. no of deaths Ø ☐ 79. property damage > $50,000

J. ACTIONS

80. ☐ Evacuation | 81. Response Action Taken: Reported to RRC1 / emergency Response, Superfund [illegible]

K. NOTIFIED

Caller Has Notified: ☐ 82. state/local ☐ 83. discharger ☐ 84. USCG ☐ 85. other ☐ 86. unknown

Agency Name Region III RRC1

L. COMMENTS

87. Comments currently drinking water. 300 ug/l TCE 250 ug/l 12 dichloroethane

☐ Additional Information

REGIONAL DATA FIELDS

Responsibility: ☒ EPA ☐ USCG ☐ Non-duty hours ☐ CWA 311 Spill letter

Response by: ☐ responsible party ☐ State ☐ local ☒ OSC ☐ other ☐ USCG

Agency Name:

If OSC: Name Garrett Arai ☐ 311 Activation – PIC # ☒ CERCLA Activation

EPA NOTIFICATION: Name, date, & time; 3E [illegible] USCG: | WFO:

State/local: to be notified Bucks Co. | EPA: [illegible]

OSC notified: | Referral:

APPENDIX D

PHOTOGRAPHIC DOCUMENTATION

APPENDIX D
PHOTOGRAPHIC DOCUMENTATION

Photograph # 1

Date Taken October 15-18, 1990

Photographer Region III TAT

Description Excavating trench for water line extension.

APPENDIX D
PHOTOGRAPHIC DOCUMENTATION

Photograph # 2

Date Taken October 15-18, 1990

Photographer Region III TAT

Description Laying of 8" ductile pipe for water line extension.

APPENDIX D
PHOTOGRAPHIC DOCUMENTATION

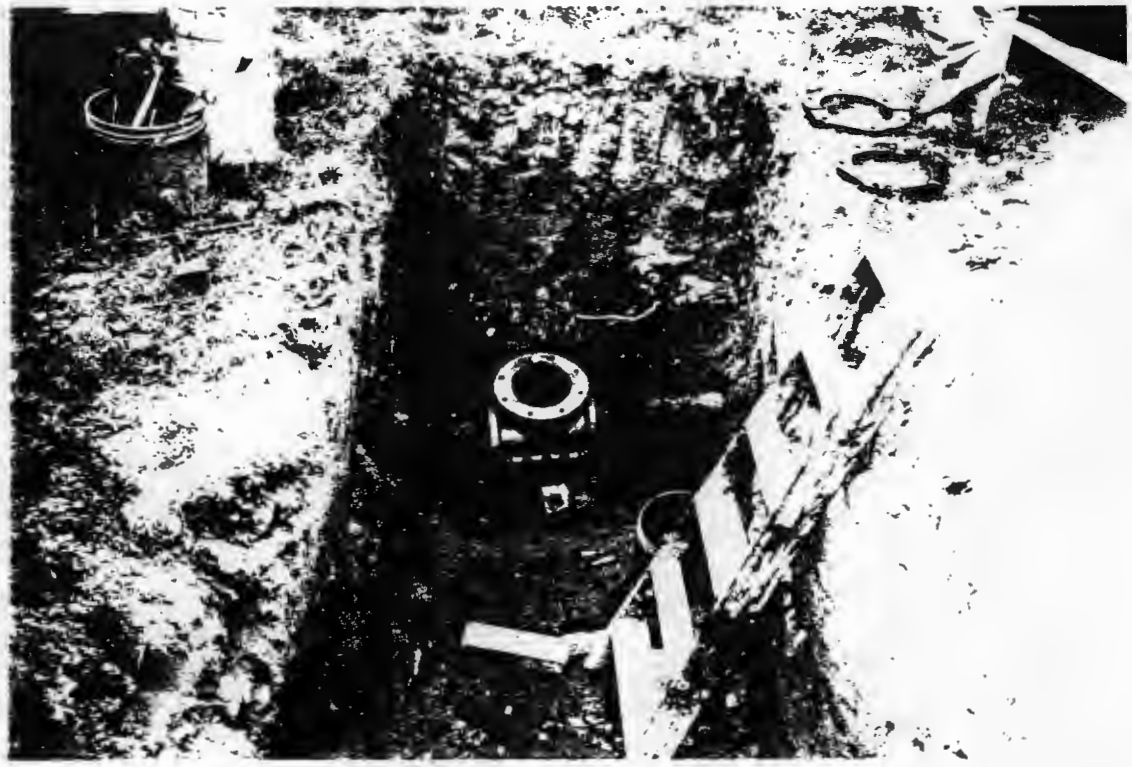
Photograph # 3

Date Taken October 15-18, 1990

Photographer Region III TAT

Description OSC Zenone (center) inspecting trench and pipe for water line extension.

APPENDIX D
PHOTOGRAPHIC DOCUMENTATION



Photograph # 4

Date Taken October 15-18, 1990

Photographer Region III TAT

Description . The 8-inch by 8-inch ductile "T" joint in place.

APPENDIX D
PHOTOGRAPHIC DOCUMENTATION

Photograph # 5

Date Taken October 15-18, 1990

Photographer Region III TAT

Description Tapping the water line.

APPENDIX D
PHOTOGRAPHIC DOCUMENTATION

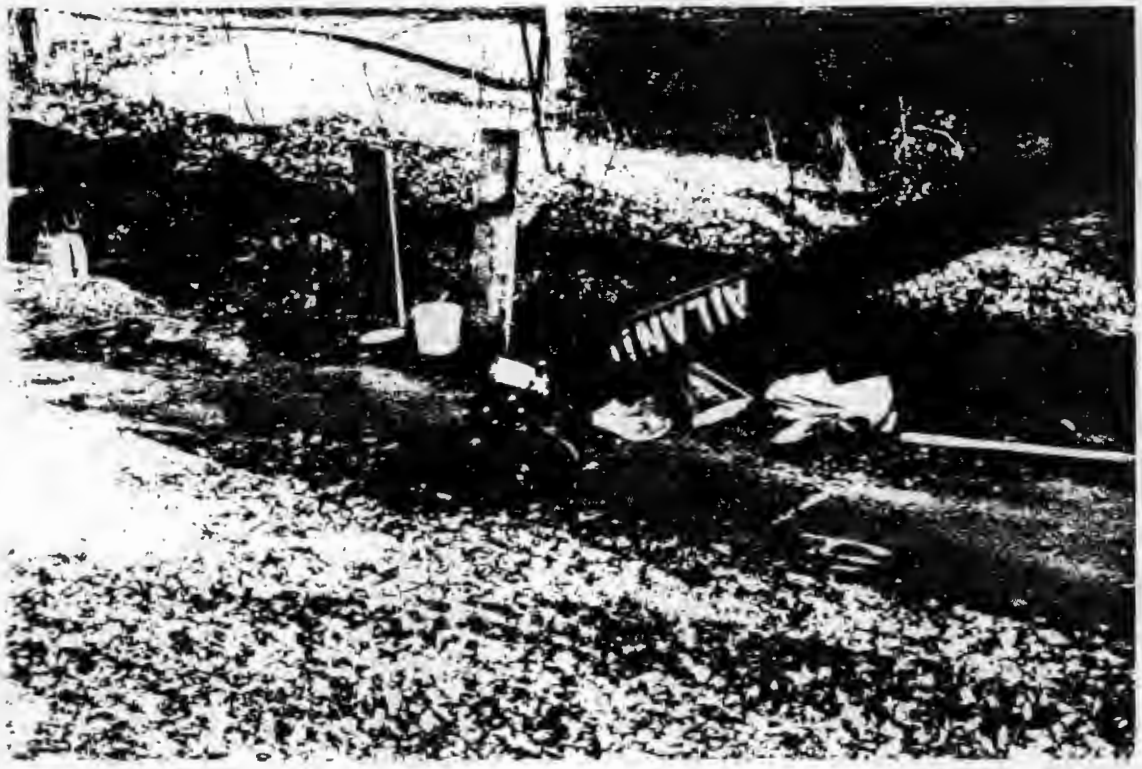
Photograph # 6

Date Taken November 7-12, 1990

Photographer Region III TAT

Description Example of a 22 1/2-degree bend used in water line extension.

APPENDIX D
PHOTOGRAPHIC DOCUMENTATION



Photograph # 7

Date Taken November 16, 1990

Photographer Region III TAT

Description Hydrant valve attached to 8-inch ductile and "T" joint.

APPENDIX D
PHOTOGRAPHIC DOCUMENTATION

Photograph # 8

Date Taken November 5-7, 1990

Photographer Region III TAT

Description Drilling holes for blasting through hard rock.

APPENDIX D
PHOTOGRAPHIC DOCUMENTATION

Photograph #	9
Date Taken	November 5-7, 1990
Photographer	Region III TAT
Description	Making electrical connections to explosives in drilled blast holes.

APPENDIX D
PHOTOGRAPHIC DOCUMENTATION

Photograph #	10
Date Taken	November 5-7, 1990
Photographer	Region III TAT
Description	Placing protective covering over blasting areas.

APPENDIX D
PHOTOGRAPHIC DOCUMENTATION

Photograph #	11
Date Taken	November 5-7, 1990
Photographer	Region III TAT
Description	Blasting in progress.

APPENDIX D
PHOTOGRAPHIC DOCUMENTATION

Photograph #	12
Date Taken	November 9, 1990
Photographer	Region III TAT
Description	Compacting after placing pipe along the shoulder of Broad Street.

APPENDIX D
PHOTOGRAPHIC DOCUMENTATION

Photograph #	13
Date Taken	November 7-12, 1990
Photographer	Region III TAT
Description	Gauge used to text compaction.

APPENDIX D
PHOTOGRAPHIC DOCUMENTATION

Photograph # 14

Date Taken November 17 to December 22, 1990

Photographer Region III TAT

Description Paving along Broad Street after completing the water line extension.

APPENDIX E

BACKGROUND INFORMATION

NUS CORPORATION
999 WEST VALLEY ROAD
WAYNE, PENNSYLVANIA 19087
215-687 9510

October 20, 1987
C-585-10-7-39
68-01-7346

Mr. Kenneth R. Kryszczun
U.S. Environmental Protection Agency
841 Chestnut Building
Ninth and Chestnut Streets
Philadelphia, PA 19107

Subject: Chem-Fab
TDD No. F3-8611-28

Dear Mr. Kryszczun:

The following is provided for information [illegible] not be construed as a final Toxicological Evaluation for the subject [illegible] trans-1,2-dichloroethene (tDCE) were confidently identified [illegible] ons of 220 and 250 ug/l, respectively. These levels exceed [illegible] Level (DWEL) of 260 ug/l or the Lifetime Health Advis[illegible] tDCE, respectively. DWELs and Lifetime HAs ar[illegible] it a removal action; in the case of volatiles, th[illegible] n of contaminated indoor air was not factore[illegible]

The well sample in question [illegible] er's name and address are as follows:

B.M. Hennings
400 N. Broad Street
Doylestown, PA 18901
Phone No. (215) 345-6464

Please redact!
Name
Address
Telephone number
Hennings

It may also be noted that other potable-u[illegible] in the immediate vicinity of the Hennings well. Samples from these wells cou[illegible] ied as home owners were not available the day of the site inspection.

The above information is being provided as quick notification to EPA and has been discussed by phone with Dr. Richard Brunker and Paul Racette.

If you have any further questions, please contact me.

Very truly yours,

Elizabeth Quinn
Senior Toxicologist

EQ/rmk

It is also notable that reported concentrations of TCE and tDCE in the Hennings well approach their Drinking Water Equivalent Level (DWEL) or Lifetime Health Advisory (HA) of 260 and 350 ug/l, respectively. DWELs and Lifetime HAs are defined as the medium specific exposure (in this case drinking water) which is interpreted to be protective for noncarcinogenic effects over a lifetime of exposure. The most sensitive indicators of toxicity appear to be similar for both TCE and tDCE (i.e., increased fatty deposition in the liver, possibly resul[illegible] It is also important to note that DWELs and Lifetime HAs assur[illegible] g water and do not consider other potential sources such as [illegible] orted concentrations of TCE and tDCE would not, in themsel[illegible] nic adverse effects, they may not provide an adequate mar[illegible], such as inhalation exposure while showering, are consi[illegible]

← Hennings

Please redact

In addition to the above-noted potential noncarcinog[illegible] from the Hennings well may carry an increased risk o[illegible] tetrachloroethene (PCE) have been classified by EPA [illegible] dichloroethene is considered to be a possible human c[illegible] toluene have been classified as noncarcinogens. 1,1-D[illegible] respect to carcinogenicity. Long-term consumption of w[illegible] increased cancer risk of about 3.4 X 10^{-4} or 1 case for eve[illegible]

← Hennings

EPA Number F3-8611-28

PA Number PA-1243

SAMPLE DATA SUMMARY
TARGET COMPOUNDS

☒ Organic ☐ Inorganic

Site Name Chem-Fab

Date of Sample 8/6/87

Compounds Detected 10

Sample Number	Sample Description and Location	Phase	Units	Methylene Chloride	Acetone	1,1 Dichloroethene	1,1 Dichloroethane	trans-1,2-Dichloroethene	1,1,1 Trichloroethane	Carbon Tetrachloride	Trichloroethene	Tetrachloroethene	Toluene	Ethylbenzene	Methylene	Di-n-butylphthalate	Remarks
K	S-3	Sol	ug/Kg	7	6								1				sample was taken on an area of dead grass
K075	S-4	Sol	ug/Kg	3	4								1				soil Matrix
K076	Background	Sol	ug/Kg	3	3								2				
K078	Soil Blank	Sol	ug/Kg	2	4								1				

[illegible] this data and own target tentatively identified compounds (if any), see the Analytical Quality Assurance section of this report.

DD Number E3-8611-28

PA Number PA-1243

TARGET COMPOUNDS

[x] Organic [ ] Inorganic

Site Name Chem-Fab

Date of Sample 8/6/87

Sample Number	Sample Description and Location	Phase	Units	Compounds Detected: Flouranthene +	Pyrene +	Benzo(a)anthracene	bis(2-ethylhexyl) Phthalate +	Chrysene +	Di-n-Octylphthalate +	Benzo (b) flouranthene	Benzo(k)flouranthene	Benzo (a) Pyrene	Heptachlor Epoxide +	Endosulfan II	4,4'-DDT	Aroclor-1248 +	Remarks
K074	S-3	Sol	ug/Kg						2700								Sample was taken in an area of dead grass
K075	S-4	Sol	ug/Kg														Soil Matrix
K076	Background	Sol	ug/Kg	470	390			260		240			5.2		23		
K078	Soil Blank	Sol	ug/Kg														

NOTE: For a review of this data and non-target, tentatively identified compounds, please see the Analytical Quality Assurance section of this report.

[ ] Organic [X] Inorganic Date of Sample 4/6/01

Compounds Detected

Sample Number	Sample Description and Location	Phase	Units	Manganese	Mercury	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc	Cyanide	Percent Solids(%)	Remarks
MCE 089	HW-1	Aq	ug/l	122.0		13.0	4474.0		21.0	12003.0			49.0			
092	HW-4	Aq	ug/l	603.0		15.0	1084.0		59.0	19824.0			2			
MCE093	SW-1	Aq	ug/l	94.0					21.0	9182.0			48.0			
MCE 689	Dup Aq	Aq	ug/l	101.0			815.0		56.0	12882.0						Duplicate of SW-1
MCE094	ST-1	Aq	ug/l	58.0						3540.0			36.0	11.5		
MCE 377	ST-2	Aq	ug/l	654.0		15.0	1381.0		68.0	22408.0			23.0	25.2		
MCE 688	Blank	Aq	ug/l													
MCE-095	ST-1		Mg/Kg	252.3		10.5	548.7					16.9	58.2		78.0	
MCE 380	ST-2	Sol	Mg/Kg	651.7		33.6	1712.8		3.0			35.6	367.2	.5	72.0	
MCE 382	DD-1	Sol	Mg/Kg	273.4		16.1	804.9		2.9			23.9	48.0	0.2	82.0	
MCE 383	S-1	Sol	Mg/Kg	160.8		10.0	396.4		2.6			24.9	16.4	0.2	78.0	
MCE384	S-2	Sol	Mg/Kg	198.0		124.5	409.0					30.3	218.5	0.9	80.0	
MCE690	Dup sol.	Sol	Mg/Kg	238.3		126.3	339.6					30.4	147.9	0.9	48.0	Duplicate of S-2

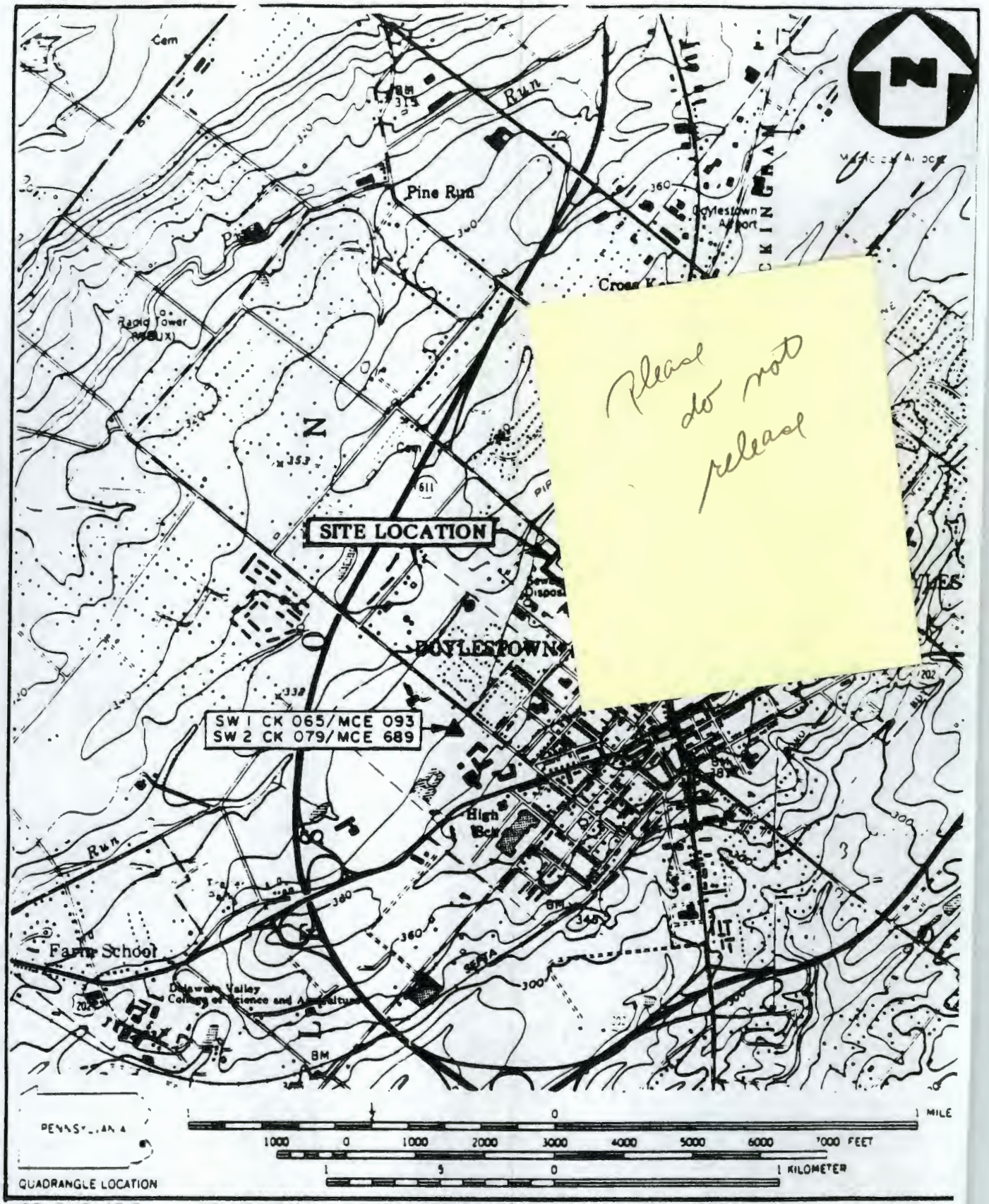
NOTE: For a review of this data and non-target, tentatively identified compounds, please see the Analytical Quality Assurance section of this report.

☐ Organic ☒ Inorganic Date of Sample 6/6/01

Compounds Detected

ple nber	Sample Description and Location	Phase	Units	Manganese	Mercury	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc	Cyanide	Percent Solids(%)	Remarks
685	S-3	S	Mg/kg	446.8		9.5	54.7					25.4	53.8	0.5	74.0		sample was taken in an area of dead grass
	S-4	S	Mg/kg	955.1		26.1	668.5					40.5	41.0	0.2	82.0		
687	Background	S	Mg/kg	190.7		7.4	377.2					18.8	38.1	0.5	86.0		

TE: For a review of this data and non-target, tentatively identified compounds, please see the Analytical Quality Assurance section of this report.



SOURCE: (7.5 MINUTE SERIES) U.S.G.S. DOYLESTOWN & BUCKINGHAM, PA QUADS

OFF-SITE SAMPLE LOCATIONS

CHEM-FAB, DOYLESTOWN, PA

SCALE 1: 24000

FIGURE 5

NUS CORPORATION

APPENDIX F

FINAL CORRESPONDENCE

DOYLESTOWN TOWNSHIP MUNICIPAL AUTHORITY

425 WELLS ROAD
DOYLESTOWN, PA 18901

(215) 348-9915
FAX (215) 348-8729

November 8, 1991

United States Environmental Protection Agency
Region III
841 Chestnut Building
Philadelphia, Pa. 19107
Attn: Vincent E. Zenone,
On-Scene Coordinator
Western Section

Dear Mr. Zenone:

I wanted to take a minute to write you a "Thank you" on behalf of the Doylestown Township Municipal Authority and myself for the courteous and friendly manner in which you completed the construction of the Broad Street water main project under the USEPA Superfund Removal Action Program.

It was my pleasure working with you, many thanks.

Sincerely,

Richard E. John
Director of Operations

REJ:mh

CC: Municipal Authority members